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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,585	07/27/2001	Hans Biermaier	BHTH-5440	7039
7590	09/22/2004		EXAMINER	
Senniger Powers Leavitt & Roedel 16th Floor One Metropolitan Square St Louis, MO 63102			CHORBAJI, MONZER R	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/831,585	BIERMAIER, HANS	
	<b>Examiner</b>	<b>Art Unit</b>	
	MONZER R CHORBAJI	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 27 July 2001.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 11-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 11-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 27 July 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>May 11 2001</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## **DETAILED ACTION**

**This is a general office action in response to the application filing date of 07/27/2001**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 12; applicant uses the phrase "lying one on the other". The disclosure indicates that the windings are next to each other. It is not clear if the applicant means that the windings are next or on top of each other. Clarification is needed to understand the meaning of claim 1. In considering claim 1, the examiner interpreted such a limitation as to mean lying on top of each other.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 11 and 13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Call et al (U.S.P.N. 6,623,603).

With respect to claim 1, the ('603) reference discloses a device for the thermal purification of water (col.1, lines 19-22), which includes the following: a counterflow heat exchanger (in figure 6, the arrows refer to the direction of water flowing in opposite directions) with a conduit (for example, in figure 6, the conduit is equivalent to the preheater section and the condenser section that are in fluid communication with each other. See also, figure 11, 211, 205 and 209) having a heating section (figure 6, preheater) and a cooling section (figure 6, condenser) that are both in fluid connection (for example, see figure 6 and the direction of the arrows); a liquid heating source arranged in the center (col.13, lines 27-33 and figure 11, 200) of the spiral (being the individual walls in figure 11 that form circular channels); both sections being spirally arranged around the heating source (in figure 11, 211 and 209 are positioned in a spiral arrangement around a central heat source located at 200); a metallic conduit (col.5, lines 65-66. The word conduit is considered equivalent to a channel); individual windings of conduit lying one on the other (in figure 6, the cooling section is lying on the heating section) and contacting each other (in figure 6, the heating and the cooling section contact each other) and a device (the meaning is considered equivalent to a piece of equipment designed to serve or perform a special function) for allowing liquid flow only in a direction from the heating section to the cooling section (the device being, for example, a pump for pressurizing water to cause it to flow in one direction into the heating or preheater section 100, col.9, lines 64-67).

With respect to claims 13-14, the ('603) reference shows a fitting (figure 8, 134), which is arranged on the inlet end of the heating section. The meaning of the word "fitting" is considered equivalent to a small and standardized accessory to a larger system.

With respect to claims 15-16, the ('603) reference shows a conduit (figure 3, 50) that includes two elastic films (36 and 48) that are inherently welded to one another at their lengthwise edges or a conduit (figure 3, 50) that includes second and third elastic films (36, 36 and 48) that are inherently welded to one another at their lengthwise edges and wherein the first and second films (36 and 36) are separated from each other by the third film (48).

With respect to claim 17, the ('603) reference shows a conduit (211) that includes two conduits (209 and 205) arranged one inside the other.

With respect to claims 18-19, the ('603) reference shows the individual windings of conduit (210) lie in the same plane and also shows that the individual windings (209 and 205) of the conduit (210) are arranged in a spherical form (the meaning of the term "sphere" is interpreted as every point, for example, at the center, is at the same distance from the center of spherical surface 210).

With respect to claim 20, the ('603) reference teaches the use of metal in constructing the device (col.7, lines 22-28).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Call et al (U.S.P.N. 6,623,603) in view of Cisar et al (U.S.P.N. 6,555,055).

The teachings of the ('603) reference have previously been set forth with respect to claims 11 and 13-20. With respect to claim 12, the ('603) reference fails to disclose the use of a check valve, but the ('055) reference, which is in the art of thermal treatment of water (col.6, lines 38-44), teaches the use of check valves (figure 1). As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of the ('603) reference to include a check valve in order to limit the flow in a line to one direction as disclosed by the ('055) reference (col.3, lines 17-20).

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Call et al (U.S.P.N. 6,623,603) in view of Lowenstein et al (U.S.P.N. 5,638,900).

The teachings of the ('603) reference have previously been set forth with respect to claims 11 and 13-20. With respect to claim 21, the ('603) reference fails to disclose

the concept of constructing the conduit from plastic material, however; the ('900) reference, which is in the art of designing heat exchangers, teaches the use of plastic material (col.2, lines 31-35). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of the ('603) reference by substituting plastic for metallic material since plastics are known to be low-cost and corrosion-resistant materials as taught by the ('900) reference (col.2, lines 34-35).

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Suchomel et al (U.S.P.N. 5,687,678) and the Cleary (U.S.P.N. 5,326,537) references teach similar concepts as the instant claims in water thermal treatment.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 6:30-3:00.
10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT J WARDEN can be reached on (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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